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AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
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Certificate No.: T- 4358

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2017-03-20-03** **Date: 22-03-2017**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer's Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	20-03-17
Sample ID No	:	2017-03-20-03/01
Sample Type	:	Zuarin 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	21-03-17

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.66	–
2	Finess by Air permeablity method (m^2/kg, Min)	278.2	225m^2/kg, Min
3	Density (gm/cc)	3.21	–
4	Standard Consistency (%)	28.5%	Not specified
5	Initial Setting time	175 minutes	Not less than 30 minutes
6	Final Setting time	280 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5 mm	Not more than 10 mm

Note:
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Prepared by
Harshitha

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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Page 1/1
****End of Report****

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2017-03-20-03** **Date: 18-04-2017**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer's Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	20-03-17
Sample ID No	:	2017-03-20-03/01
Sample Type	:	Zuarin 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	21-03-17

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	29.0N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	55.5N/mm^2	Not less than 53 N/mm^2

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TEST REPORT ON PHYSICAL REQUIREMENTS OF SOLID CONCRETE BLOCKS

Lab ID	:	**CP-2017-03-20-03** **Date: 25-03-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer's Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	20-03-17
Sample ID No	:	2017-03-20-03/04
Sample Type/Size	:	Solid concrete blocks of size (400X200X100)mm
Reference to BIS codes	:	IS : 2185 (Part 1) : 2005(RA 2010) Concrete Masonry Specification Part 1:Hollow and Solid Concrete Blocks (Dimensions -Annex-B, Clause 9.2 and 10 , Block density Annex -C Clause 9.3 and10, Compressive strength Annex -D Clause 9.4 and 10, Water absorption Annex -E Clause 9.5 and 10)
Date of test	:	20-03-17

BLOCK DENSITY:

Sl. No.	Measurement of overall Dimensions of Individual Blocks			Overall Volume of the Block in Cubic Centimetres	Weight of Oven Dried Block in Kilograms to the nearest 10 Gram	Block Density in Kg/cum*10^6	Avg.Block Density in (Kg/cum)	As per IS 2185 (Part 1):2005 (RA 2010)
	Length	Breadth	Height					
	mm	mm	mm	(Cm^3)	Kg	Kg/m^3	Kg/m^3	
1	402	102	202	8283	16.750	2022.3	2018.8	Not less than 1800Kg/m^3
2	401	102	203	8303	16.490	1986.0		
3	402	100	201	8080	16.55	2048.2		

WATER ABSORPTION:

Sl. No.	Wet weight after water absorption	Dry weight (Oven dry)	Water Absorption	Avg.Water Absorption	As per IS 2185 (Part 1):2005 (RA 2010)
	kg	kg	%	%	
1	16.990	16.250	4.55	4.45	Shall not be more than 10% by mass
2	16.870	16.180	4.26		
3	16.840	16.110	4.53		

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Lab ID : **CP-2017-03-20-03**

Date: 25-03-17

Sample ID No : **2017-03-20-03/04**

DIMENSION ANALYSIS

Sl.no	Length mm	Breadth mm	Height mm	Requirement as per IS 2185(Part 1):2005
1	401	101	202	Length : ± 5mm Breadth : ± 3mm Height : ± 3mm
2	402	102	203	
3	401	101	202	
4	403	102	202	
5	404	103	202	
6	402	103	202	
7	401	102	201	
8	402	102	201	
9	403	105	201	
10	400	103	201	
11	401	101	202	
12	401	102	201	
13	403	101	201	
14	402	103	203	
15	402	102	202	
16	401	102	201	
17	400	103	203	
18	402	101	202	
19	403	102	201	
20	402	100	203	
Average of 20 blocks	**402**	**102**	**202**	

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Lab ID : **CP-2017-03-20-03** **Date: 25-03-17**

Sample ID No : 2017-03-20-03/04

COMPRESSIVE STRENGTH:

Sl. No.	Size of solid block		Area	Failure Load	Compressive strength	Average Compressive strength
	Length	Breadth				
	mm	mm	(mm^2)	(KN)	N/mm^2	(N/mm^2)
1	401	101	40501	184.6	4.6	4.0
2	402	102	41004	177.2	4.3	
3	401	101	40501	154.2	3.8	
4	403	102	41106	150.9	3.7	
5	404	103	41612	172.5	4.1	
6	402	103	41406	149.7	3.6	
7	401	102	40902	140.1	3.4	
8	402	102	41004	172.5	4.2	

As per IS Requirements (Table 2, Clause 5.1, 5.2 and 9.4)

Compressive strength		
Grade	**Minimum average**	**Minimum Individual units.**
C (5.0)	5.00 N/mm^2	4.00 N/mm^2
C (4.0)	4.00 N/mm^2	3.20 N/mm^2

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Prepared by
Harshitha

FOR CIVIL Pro.

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Authorized Signatory
Quality Manager

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

****End of Report****

TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2017-03-20-03** **Date: 25-03-2017**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer's Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	20-03-17
Sample ID No	:	2017-03-20-03/02(a)
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	20-03-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	577	577	3.8	96.2	90-100
3	20 mm	4779	5356	35.7	64.3	30-70
4	10 mm	5882	11238	74.9	25.1	10-35
5	4.75 mm	3222	14460	96.4	3.6	0-5
6	Pan	540	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-03-20-03** **Date: 25-03-2017**

Sample ID No : 2017-03-20-03/02(a)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	10.1	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.1	
3	Specific Gravity	2.61	–
4	Bulk Density(Loose) (Kg/l)	1.48	–
5	Bulk Density(Compacted) (Kg/l)	1.52	–
6	Water Absorption(%)	0.18	–

Note:

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Prepared by
Harshitha

FOR CIVIL Pro.

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Assistant Executive Engineer
Kodigehalli Sub Division
Bangalore Metropolitan Region Development Authority
Bangalore - 560 092

****End of Report****

TEST RESULTS OF STEEL

Lab ID	:	**CP-2017-03-24-01** **Date: 25-03-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer's Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	24-03-17
Sample ID No	:	2017-03-24-01/01
Sample Type	:	JSW
Reference to BIS codes	:	IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2012.
Date of test:	:	24-03-17

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample	Yield stress	Tensile strength	Elongation	Bend test	Rebend test
			(mm)	(kg/m)	(N/mm2)	(N/mm2)	(%)		
1	JSW	Fe500	8	0.392	542	672	20.0%	Satisfactory	Satisfactory
2	JSW	Fe500	10	0.615	568	685	20.0%	Satisfactory	Satisfactory

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Assistant Executive Engineer, Kodigehalli Sub Division, Yelahanka Zone, B.B.M.P. Bangalore

End of Report

TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2017-03-20-03** **Date: 25-03-2017**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	20-03-17
Sample ID No	:	2017-03-20-03/02(b)
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	20-03-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	388	388	7.76	92.24	90-100
3	10 mm	2153	2541	50.82	49.18	25-55
4	4.75 mm	2015	4556	91.12	8.88	0-10
5	Pan	444	5000	100	0	_

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-03-20-03** **Date: 25-03-2017**

Sample ID No : 2017-03-20-03/02(b)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	**8.1**	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	**9.6**	
3	Specific Gravity	**2.58**	_
4	Bulk Density(Loose) (Kg/l)	**1.50**	_
5	Bulk Density(Compacted) (Kg/l)	**1.57**	_
6	Water Absorption(%)	**0.21**	_
7	Aggregate crushing Value(%)	**23.5**	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	**20.5**	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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Prepared by
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Quality Manager

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Bruhat Bangalore Mahanagara Palike
Bangalore - 560 002

End of Report

TEST REPORT OF FINE AGGREGATE

Lab ID	:	**CP-2017-03-20-03** **Date: 25-03-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer's Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	20-03-17
Sample ID No	:	2017-03-20-03/03
Sample Type	:	Fine Aggregate
Reference to BIS codes	:	IS 383 : 2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1, 3) RA2012 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
Date of test	:	20-03-17
Total weight taken	:	1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0	100	100	100	100	100
2	4.75 mm	22	22	2.2	97.8	90-100	90-100	90-100	95-100
3	2.36 mm	186	208	20.8	79.2	60-95	75-100	85-100	95-100
4	1.18 mm	215	423	42.3	57.7	30-70	55-90	75-100	90-100
5	600 micron	202	625	62.5	37.5	15-34	35-59	60-79	80-100
6	300 micron	211	836	83.6	16.4	5-20	8-30	12-40	15-50
7	150 micron	122	958	95.8	4.2	0-10	0-10	0-10	0-15
8	Pan	42	1000	100	0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2017-03-20-03** **Date: 25-03-17**

Sample ID No : 2017-03-20-03/03

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.82	–
2	Specific Gravity	2.57	–
3	Material finer than 75 micron(%)	3.9	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

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Prepared by
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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2017-04-04-06** **Date: 08-04-17**

Customer : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

Address : Kodigehalli Sub Division, BBMP, Bangalore.

Project Name : Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.

Agency : Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.

Customer's Reference : EE/BTP/BBMP/E-PMT/252/2015-16

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 04-04-17

Sample ID No : 2017-04-04-06/01

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 08/04/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	01/04/2017	08/04/2017	150.92 X 150.75 X 150.32	22751	8.116	414.1	18.2	17.8
2	Drain Concrete	M20	01/04/2017	08/04/2017	151.76 X 150.87 X 150.38	22896	8.172	407.5	17.8	
3	Drain Concrete	M20	01/04/2017	08/04/2017	150.29 X 150.93 X 150.77	22683	8.154	392.4	17.3	

Note:
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Prepared by
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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL |
GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

TEST REPORT OF CEMENT CONCRETE CUBES

o ID	:	**CP-2017-04-04-06** **Date: 29-04-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer's Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	04-04-17
Sample ID No	:	2017-04-04-06/02
Customer ID	:	Drain Concrete
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M20 / 28 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5
Date of test	:	29/04/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen	Cross sectional area	Weight of the sample	Failure Load	Compressive strength	Average Compressive Strength
					(mm)	(Sq.mm)	(kg)	(KN)	(N/mm^2)	(N/mm^2)
1	Drain Concrete	M20	01/04/2017	29/04/2017	150.22 X 151.93 X 150.44	22823	8.173	529.5	23.2	23.3
2	Drain Concrete	M20	01/04/2017	29/04/2017	150.72 X 150.43 X 150.87	22673	8.188	537.3	23.7	
3	Drain Concrete	M20	01/04/2017	29/04/2017	150.37 X 150.22 X 150.73	22589	8.297	521.8	23.1	

Note:
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Prepared by
Harsitha

FOR CIVIL Pro.

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Assistant Executive Engr
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****End of Report****

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL |
GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	**CP-RW-2017-04-03-05** **Date: 05-05-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	03-04-17
Sample ID No	:	2017-04-03-05/01
Type of Mix	:	WMM (Wet Mix Macadam)
Date of test	:	03-04-17
Oven Dry Weight	:	12000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0	100	100
45	216	216	1.8	98.2	95-100
22.4	2815	3031	25.3	74.7	60-80
11.2	2296	5327	44.4	55.6	40-60
4.75	2511	7838	65.3	34.7	25-40
2.36	1721	9559	79.7	20.3	15-30
0.6	811	10370	86.4	13.6	8-22
0.075	1250	11620	96.8	3.2	0-5

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	**CP-RW-2017-04-05-05** **Date: 07-05-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	05-04-17
Sample ID No	:	2017-04-05-05/01
Type of Mix	:	WMM (Wet Mix Macadam)
Date of test	:	05-04-17
Oven Dry Weight	:	12000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0	100	100
45	201	201	1.7	98.3	95-100
22.4	2916	3117	26.0	74.0	60-80
11.2	2598	5715	47.6	52.4	40-60
4.75	2611	8326	69.4	30.6	25-40
2.36	1742	10068	83.9	16.1	15-30
0.6	754	10822	90.2	9.8	8-22
0.075	1044	11866	98.9	1.1	0-5

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Quality Manager

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End of Report

TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	**CP-RW-2017-04-07-05** **Date: 08-05-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	07-04-17
Sample ID No	:	2017-04-07-05/01
Type of Mix	:	WMM (Wet Mix Macadam)
Date of test	:	07-04-17
Oven Dry Weight	:	12000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0	100	100
45	209	209	1.7	98.3	95-100
22.4	3196	3405	28.4	71.6	60-80
11.2	2165	5570	46.4	53.6	40-60
4.75	2714	8284	69.0	31.0	25-40
2.36	1592	9876	82.3	17.7	15-30
0.6	655	10531	87.8	12.2	8-22
0.075	952	11483	95.7	4.3	0-5

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Authorized Signatory
Quality Manager

End of Report

TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	**CP-RW-2017-04-10-05** **Date: 11-05-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	10-04-17
Sample ID No	:	2017-04-10-05/01
Type of Mix	:	WMM (Wet Mix Macadam)
Date of test	:	10-04-17
Oven Dry Weight	:	12000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0	100	100
45	211	211	1.8	98.2	95-100
22.4	2854	3065	25.5	74.5	60-80
11.2	2651	5716	47.6	52.4	40-60
4.75	2714	8430	70.3	29.8	25-40
2.36	2165	10595	88.3	11.7	15-30
0.6	212	10807	90.1	9.9	8-22
0.075	813	11620	96.8	3.2	0-5

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End of Report

TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2017-04-03-05** **Date: 08-05-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	03-04-17
Sample ID No	:	2017-04-03-05/01
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	06-05-17

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	305.2	305.5
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	65.7	68.4
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	239.1	236.5
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.4	0.6
5	Aggregate impact value	(B/A)*100	21.5	22.4
6	Aggregate impact value (Mean of two tests)	Pecentage	22.0	

Assistant Executive Engineer, Kodigehalli Sub Division, Thanka Zone, B.B.M.P., Bangalore.

Note:-
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Page 1/1
End of Report

DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2017-04-07-05** **Date: 08-05-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	07-04-17
Sample ID No	:	2017-04-07-05/01
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	07-05-17

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	10.6%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.8%	
Combined Flakiness and Elongation Index for WMM	23.4%	

Note:-
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End of Report

TEST REPORT ON BITUMEN

Lab ID	:	**CP-2017-05-10-05** **Date: 16-05-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer's Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	10-05-17
Sample ID No	:	2017-05-10-05/01
Sample Type	:	Bitumen
Reference to BIS codes	:	IS: 1201-1220(1978) (Reaffirmed-2004)
Date of test	:	15-05-17

Test Results

Sl.no	Name of Test	Result	Requirements as per IS:73-2013
1	Penetration at 25°C , in 1/10th mm	**92**	80 to 100
2	Softening Point, °C	**48.2**	Min. 40°C
3	Ductility, cm	**92**	Min. 75cm
4	Flash point, °C	**228**	Min. 220°C
	Fire point, °C	**235**	

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****End of Report****

DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE (IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	**CP-RW-2017-04-14-05** **Date: 16-05-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	14-04-17
Sample ID No	:	2017-04-14-05/01
Type of Mix	:	Coarse Aggregate for SDBC (Semi Dense Bituminous Concrete)
Date of test	:	15-05-17

Result:

Flakiness Index	10.1%
Elongation Index	12.9%
Combined Flakiness & Elongation Index for SDBC	23.0%

Comments:

Maximum allowable Flakiness & Elongation Index For SDBC is 30 %

Note:-

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Page 1/1
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SPECIFIC GRAVITY AND WATER ABSORPTION TEST IS:2386 (Part III)

Lab ID : **CP-RW-2017-04-14-05** **Date: 16-05-17**

Customer : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

Address : Kodigehalli Sub Division, BBMP, Bangalore.

Project Name : Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.

Agency : Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.

Customer Reference : EE/BTP/BBMP/E-PMT/252/2015-16

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 14-04-17

Sample ID No : 2017-04-14-05/01

Type of Mix : Coarse Aggregate for SDBC (Semi Dense Bituminous concrete)

Date of test : 13-05-17

Sl.No	Details of Observations	Index	Unit	Test 1	Test 2	Mean Value
1	Weight of Wet aggregates + Basket suspended in water	A1	grams	2295	2250	
2	Weight of Empty Basket suspended in water	A2	grams	791	791	
3	Weight of Aggregates in water	A=A1-A2	grams	1504	1459	
4	Weight of Saturated Surface Dry aggregate	B	grams	2432	2348	
5	Weight of oven dried aggregate	C	grams	2424	2340	
6	Specific gravity	C/(B-A)		2.61	2.63	2.62
7	Apparent Specific gravity	C/(C-A)		2.63	2.66	2.65
8	Water absorption	100*(B-C) /C	Percent	0.33	0.34	0.34

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Assistant Executive Engineer, Kodigehalli Sub Division, B.B.M.P., Yelahanka, Bangalore.

Prepared By:
Harshitha

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signature
Quality Manager

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Page 1/1
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TESTS RESULTS ON AGGREGATE IMPACT VALUE
(IS:2386 Part IV)

Lab ID	:	**CP-RW-2017-04-14-05** **Date: 16-05-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	14-04-17
Sample ID No	:	2017-04-14-05/01
Type of Mix	:	Coarse Aggregate for SDBC (Semi Dense Bituminous Concrete)
Date of test	:	15-05-17

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	302.9	302.1
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	68.9	66.1
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	233.6	235.5
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.4	0.5
5	Aggregate impct value	(B/A)*100	22.7	21.9
6	Aggregate impct value (Mean of two tests)		22.3	

Note:-

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AE 17

Assistant Executive Engineer,
Kodigehalli Sub Division,
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Bangalore.

Prepared By:
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TEST RESULTS OF GRADATION FOR SDBC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2017-04-14-05**	**Date: 17-05-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.	
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.	
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.	
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.	
Customer Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	14-04-17	
Sample ID No	:	2017-04-14-05/01	
Type of Mix	:	SDBC-Plant (Semi Dense Bituminous Concrete)	
Date of test	:	16-05-17	
Oven Dry Weight(gm)	:	5000	

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-15(grading-2)
13.2	0	0	0	100	100
9.5	410	410	8.2	91.8	90-100
4.75	2187	2597	51.9	48.1	35-51
2.36	1038	3635	72.7	27.3	24-39
1.18	525	4160	83.2	16.8	15-30
0.3	503	4663	93.3	6.7	9-19
0.075	169	4832	96.6	3.4	3-8
PAN	168	5000	100.0	0.0	0

Note:-

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Assistant Executive Engineer, Kodigehalli Sub Division, Yelahanka Zone, B.B.M.P., Bangalore.

Prepared By:
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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2017-04-14-05** **Date: 17-05-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Hot Mix Plant, Bangalore
Sample Condition	:	Satisfactory
Date of Receipt	:	14/4/2017
Sample ID No	:	2017-04-14-05/01
Type of Mix	:	SDBC (Semi Dense Bituminous Concrete)
Date of test	:	13-05-17

The results of the tests conducted on the Semi Dense Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-16
1	Marshal Stability at 60°C, KN	10.14	10.34	8.2KN(min)
2	Marshal flow at 60°C, mm	3.26	3.21	2-4
3	Percent air Voids	4.72	4.54	3-5
4	Percent Voids in mineral Aggregate(VMA %)	13.93	13.98	13-15
5	Percent Voids filled with Bitumen(VFB %)	68.87	70.4	65-75
6	Density, g/cc	2.25	2.26	–

Note:-
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Assistant Executive Engineer, Kodigehalli Sub Division, Yelahanka Z.P., B.M.P., Bangalore.

Prepared By:
Harshitha

CIVIL Pro Sig..... Date..... BANGALORE

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Authorized Signatory
Quality Manager

Page 1/1
End of Report

TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	**CP-RW-2017-04-14-05** **Date: 17-05-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	14/4/2017
Sample ID No	:	2017-04-14-05/01
Type of Mix	:	SDBC (Semi Dense Bituminous Concrete)
Date of test	:	14-05-17

Type of Binder	:	80/100
% of Binder Used	:	5.0%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	10.0 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.0	2.0	98.2	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

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Assistant Executive Engineer,
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****End of Report****

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TEST RESULTS OF BITUMEN CONTENT FOR SDBC
(AS per IRC:SP:-11-1984)

Lab ID	:	**CP-RW-2017-04-25-01** **Date: 18-05-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.
Customer Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16
Source of Sample	:	Sample supplied by Agency
Date of Receipt	:	25-04-17
Sample ID No	:	2017-04-25-01/01
Type of Mix	:	SDBC (Semi Dense Bituminous Concrete)
Date of test	:	18-05-17

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	A	500	500
2	Weight of the sample After extraction	B	476	475
3	Bitumen percentage	$\frac{A-B}{A} \times 100$	4.80	5.00
4	Average percentage	%	4.90	

Assistant Executive Engineer,
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Lab ID : **CP-RW-2017-04-25-01** **Date: 18-05-17**

Sample ID No : **2017-04-25-01/01**

AFTER EXTRACTION (Trail-1)

Oven Dry Weight(gm) : 476

IS Sieve Size(mm)	Weight Retained(gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-15(grading-2)
13.2	0	0	0	100.0	100
9.5	32	32	6.7	93.3	90-100
4.75	211	243	51.1	48.9	35-51
2.36	102	345	72.5	27.5	24-39
1.18	50	395	83.0	17.0	15-30
0.3	21	416	87.4	12.6	9-19
0.075	32	448	94.1	5.9	3-8

AFTER EXTRACTION (Trail-2)

Oven Dry Weight(gm) : 475

IS Sieve Size(mm)	Weight Retained(gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-15(grading-2)
13.2	0	0	0	100.0	100
9.5	30	30	6.3	93.7	90-100
4.75	215	245	51.6	48.4	35-51
2.36	106	351	73.9	26.1	24-39
1.18	41	392	82.5	17.5	15-30
0.3	24	416	87.6	12.4	9-19
0.075	31	447	94.1	5.9	3-8

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TEST RESULTS OF BITUMEN CONTENT FOR SDBC
(AS per IRC:SP:-11-1984)

Lab ID	:	**CP-RW-2017-04-25-01**	**Date: 18-05-17**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.	
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.	
Project Name	:	Improvementsto roads and Drains Near Sridhar House area Amruthahalli in Ward No.07, Kodigehalli Sub Division.	
Agency	:	Sri. Ninganagowda V. Patil, #57/7, Sri Krishna nilaya, 2nd Main, Ganganagara, R.T Nagara [P], Bangalore-32.	
Customer Reference	:	EE/BTP/BBMP/E-PMT/252/2015-16	
Source of Sample	:	Sample supplied by Agency	
Date of Receipt	:	25-04-17	
Sample ID No	:	2017-04-25-01/02	
Type of Mix	:	SDBC (Semi Dense Bituminous Concrete)	
Date of test	:	18-05-17	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	A	500	500
2	Weight of the sample After extraction	B	474	475
3	Bitumen percentage	$\frac{A-B}{A} \times 100$	5.20	5.00
4	Average percentage	%	5.10	

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Lab ID : **CP-RW-2017-04-25-01** **Date: 18-05-17**

Sample ID No : **2017-04-25-01/02**

AFTER EXTRACTION (Trail-1)

Oven Dry Weight(gm) : 474

IS Sieve Size(mm)	Weight Retained(gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-15(grading-2)
13.2	0	0	0	100.0	100
9.5	28	28	5.9	94.1	90-100
4.75	217	245	51.7	48.3	35-51
2.36	99	344	72.6	27.4	24-39
1.18	53	397	83.8	16.2	15-30
0.3	29	426	89.9	10.1	9-19
0.075	32	458	96.6	3.4	3-8

AFTER EXTRACTION (Trail-2)

Oven Dry Weight(gm) : 475

IS Sieve Size(mm)	Weight Retained(gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-15(grading-2)
13.2	0	0	0	100.0	100
9.5	37	37	7.8	92.2	90-100
4.75	204	241	50.7	49.3	35-51
2.36	106	347	73.1	26.9	24-39
1.18	52	399	84.0	16.0	15-30
0.3	22	421	88.6	11.4	9-19
0.075	29	450	94.7	5.3	3-8

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